Distributed Energy Roadshow
Legislative Update

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Public who?

National non-profit, founded in 1971 by Ralph Nader

State office in Austin

We work mainly on energy/environmental/ethics issues.

Why do we work on DE?

We see the long-term benefits of decentralizing our power system and turning to renewables, but we also see the dangers of inappropriately using old, dirty generators for a few people's economic advantage at the expense of public health.

DFW's Unique Situation

Significant transmission constraints

Potential misuse of emergency backup units

Air quality/environmental impact of dirty DG

When would people use backup generators inappropriately?

Threat of blackout/brownout

High natural gas prices

Expensive utility bills

What would the consequences be?

Compromised air quality

Increased incidences of health problems, primarily respiratory

Violation of permit, potential fines

ERCOT Recognizes the Problems

ERCOT = Electric Reliability Council of Texas

To conform to the new SIP, DFW power plants will be required either to retrofit existing generation units with new NOx reduction devices or to reduce or cease operation. Because the existing DFW transmission system was designed assuming continued operation of this in-area generation capacity, ***the DFW area could experience significant problems of peak period supply adequacy and voltage stability*** if significant amounts of the in-area generation becomes unavailable and no new in-area plants are built.

From ERCOT REPORT ON EXISTING AND POTENTIAL ELECTRIC SYSTEM CONSTRAINTS AND NEEDS WITHIN THE ERCOT REGION October 2002

The PUC agrees

"While no additional generation has been built inside the transmission-constrained metroplex during the last five or more years…ERCOT believes that new air quality regulations and continued DFW load growth will necessitate the construction of new high voltage AC transmission lines and that the DFW metroplex load cannot be served without adequate local generation."

-- "Meeting the DFW Reliability Challenge" PUC Seminar, November 2000

Legislation That Could Affect Distributed Energy Policy

HB 3271 Distributed Renewable Energy bill

SB 1879 Energy Conservation in State Buildings

HB 1365 Latest incarnation of Texas Emissions Reduction Plan, or TERP

HB 3271 Distributed Renewable Resources

By Rep. Gallego (D-Alpine)

Set 50MW Renewable Portfolio Standard, 1/2 Solar PV

Required electric providers to buy REC's to meet goals

Included Net Metering/Interconnection provision

- Standby fees based on cost
- No monetary compensation to DG owner -- meter would simply flow backwards and forwards

Required utilities to notify customers of DG alternatives if installing new lines

Addressed Insurance Issue -- appropriate coverage, affordable, non-discriminatory

Stalled in Regulated Industries Committee

SB 1879 Solar in State Structures Act

Original act passed in 1995

Required new state buildings to examine alternative energy installations for cost effectiveness over lifetime of building

Mandated that if alternative energy devices would be economically feasible over the life of the building, that they be included in the plans

New Bill Energy Conservation in State Buildings

By Senator Van de Putte (D-San Antonio)

Requires that before construction can begin on a new state building, documentation of the study be provided to the "appropriate authority" and to the State Energy Conservation Office

Broadens scope of alternative energy devices to include energy efficient design alternatives as well

Left pending in House State Affairs Committee

HB 1365 Texas Emissions Reduction Plan

By Rep. Bonnen (R-Angleton) and Sen. Harris (R-Arlington)

Stationary diesel engines: for the first time, eligible for grants to clean up emissions (must reduce NOx by 30%)

TERP funds: 87.5% to diesel cleanup programs; 9.5% to new technology research and development (of which 20% to research on HGA and DFW air quality); 3% to administrative costs

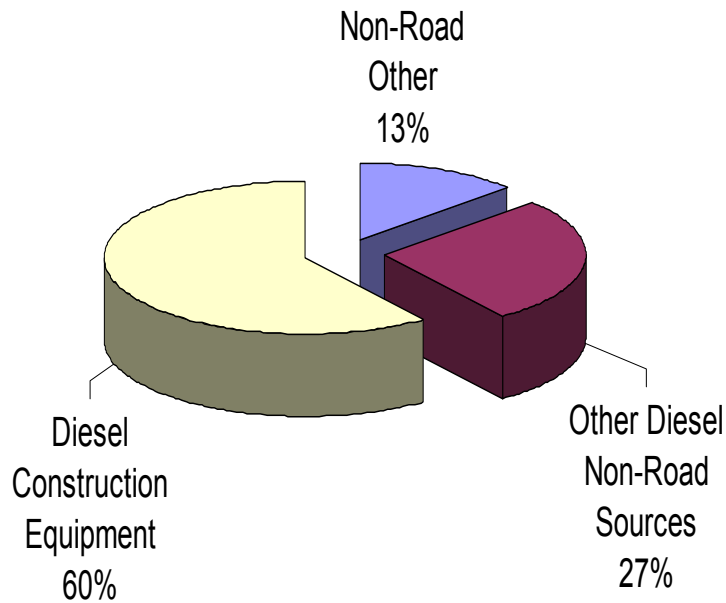
TX Council on Environmental Technology: provide grants for commercialization of technologies including fuel cells, catalysts, and fuel additives

General Land Office: can create voluntary program to give incentives to buildings that exceed energy efficiency code by 15%

Why 87.5% to Diesel Cleanup?

- Diesel engines, particularly old models, put out far more pollution (15-100x more)
- Most on-site generators are diesel fueled
- Depending on when they were installed, they may not have emissions regulations
- DFW has enough air quality problems without additional diesel exhaust
- The national average cancer risk from breathing hazardous air pollutants in the outdoor air was one-in-2100 in 1996, the most recent year for which data are available. Diesel emissions alone contributed 89% of the cancer risk, with 28% from on-road sources, such as freight trucks, and 60% from non-road sources,such as construction, industrial, and farm equipment. (from PIRG Report: Dangers of Diesel October 2002)

Non Road Diesel NOx Sources
Non Road Mobile Sources, 1999 Emissions Inventory



Total Non-Road NOx Emissions are 55 tpd. Diesel equipment contributes 87% (47 tpd). Diesel construction equipment contributes 60% (33 tpd).

Energy Efficiency/Renewable Credits in the Clean Air Plans

TERP requires TCEQ to develop rules to give credit for energy efficiency.

Preliminary 8-hour plans are due **this month**.

The EPA and TCEQ clearly recognize the long-term value of energy efficiency and distributed resources. The trick is to figure out how to *quantify* pollution savings from such measures.

Public Citizen is working with the EPA, TCEQ, and several knowledgeable consultants to include energy efficiency in State Implementation Plans. Once this goes through, cities will have additional incentives to incorporate energy efficiency and clean on-site generation because they will get CREDIT for it.

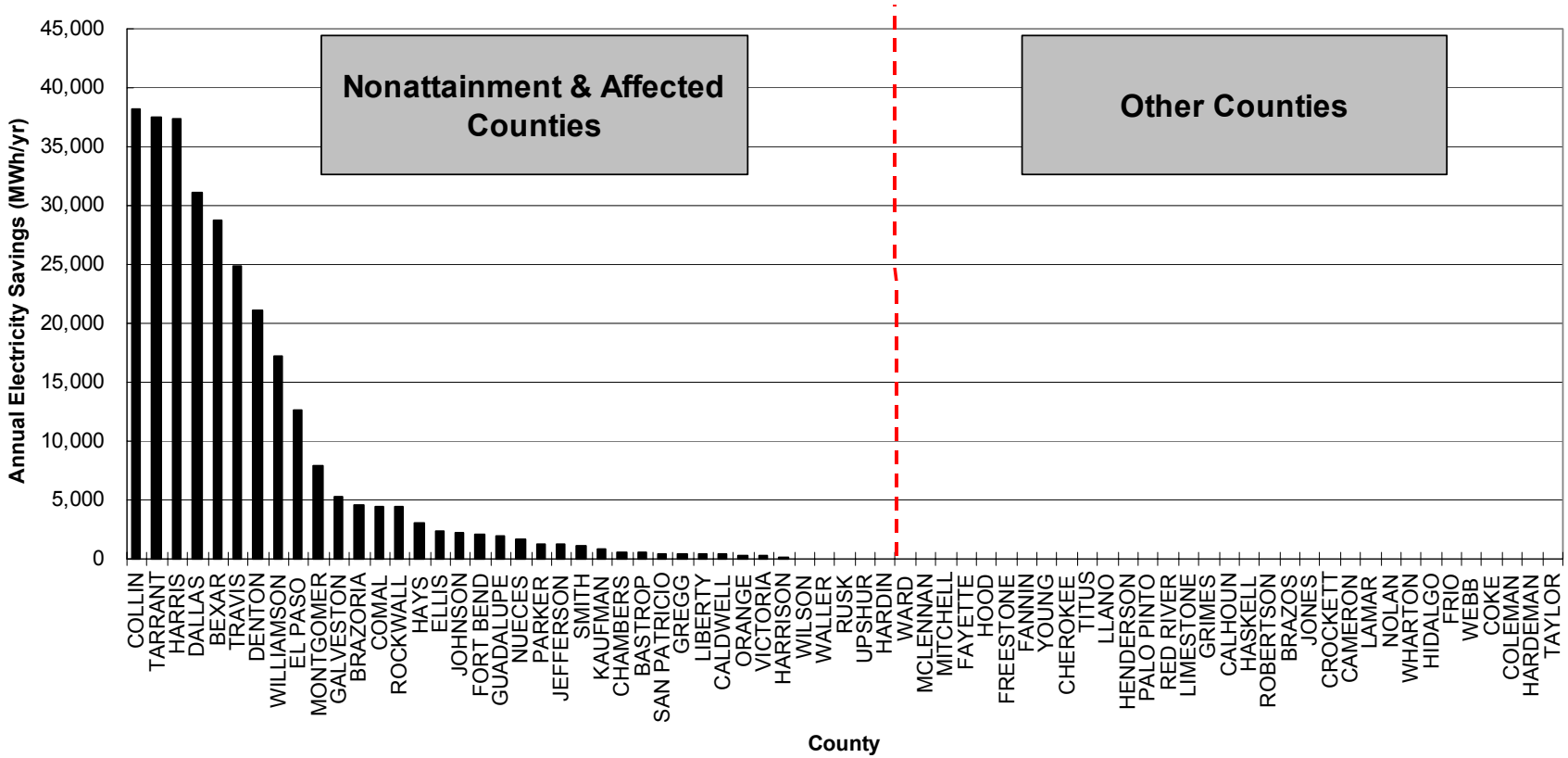


Table 1: 2002 Annual Electricity Savings Due To the 2000 IECC (Single Family Residential)

Memo from A&M University Energy Systems Labs on EGRID geographical distribution of NOx reductions from the electricity savings attributable to the implementation of the 2000 IECC to single family residential.

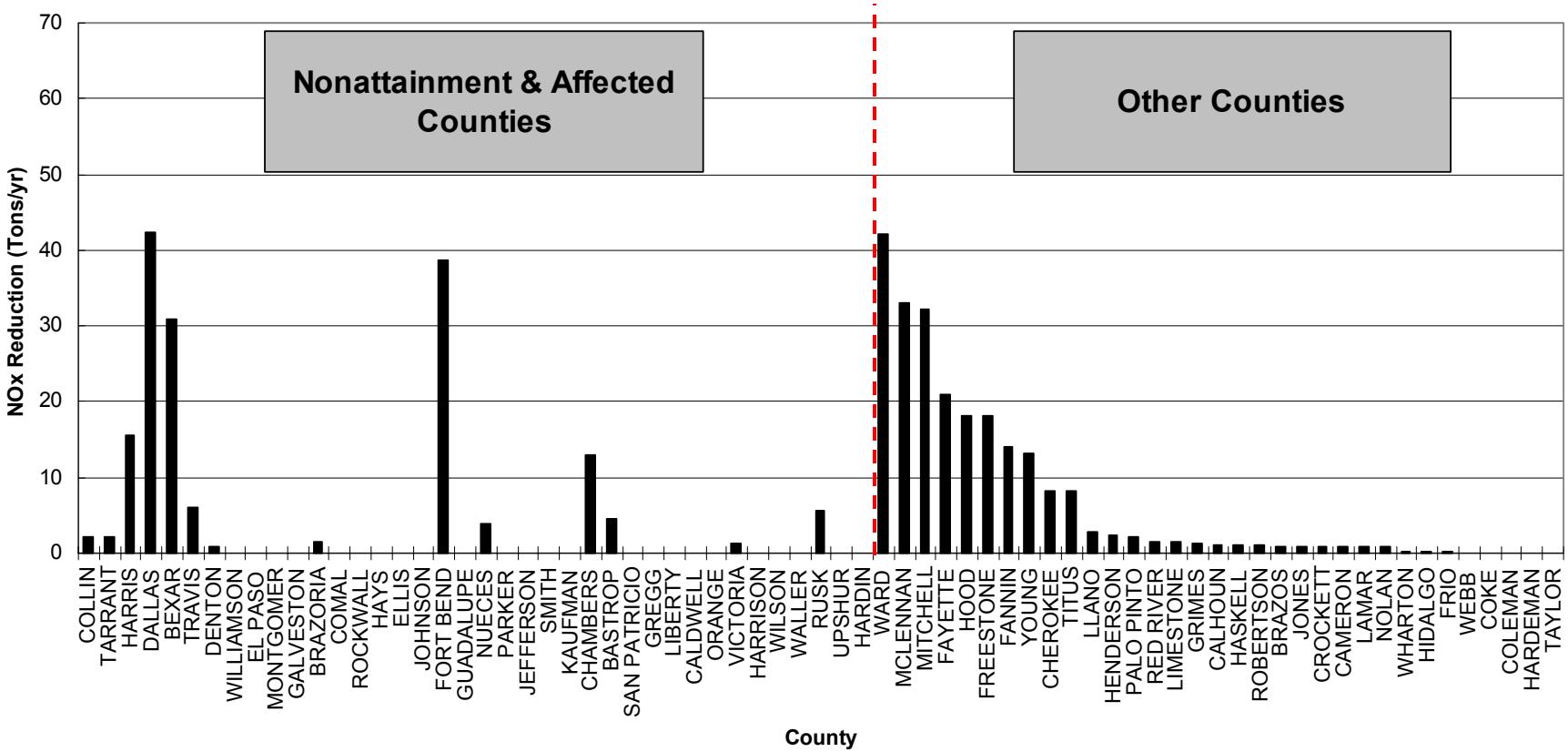
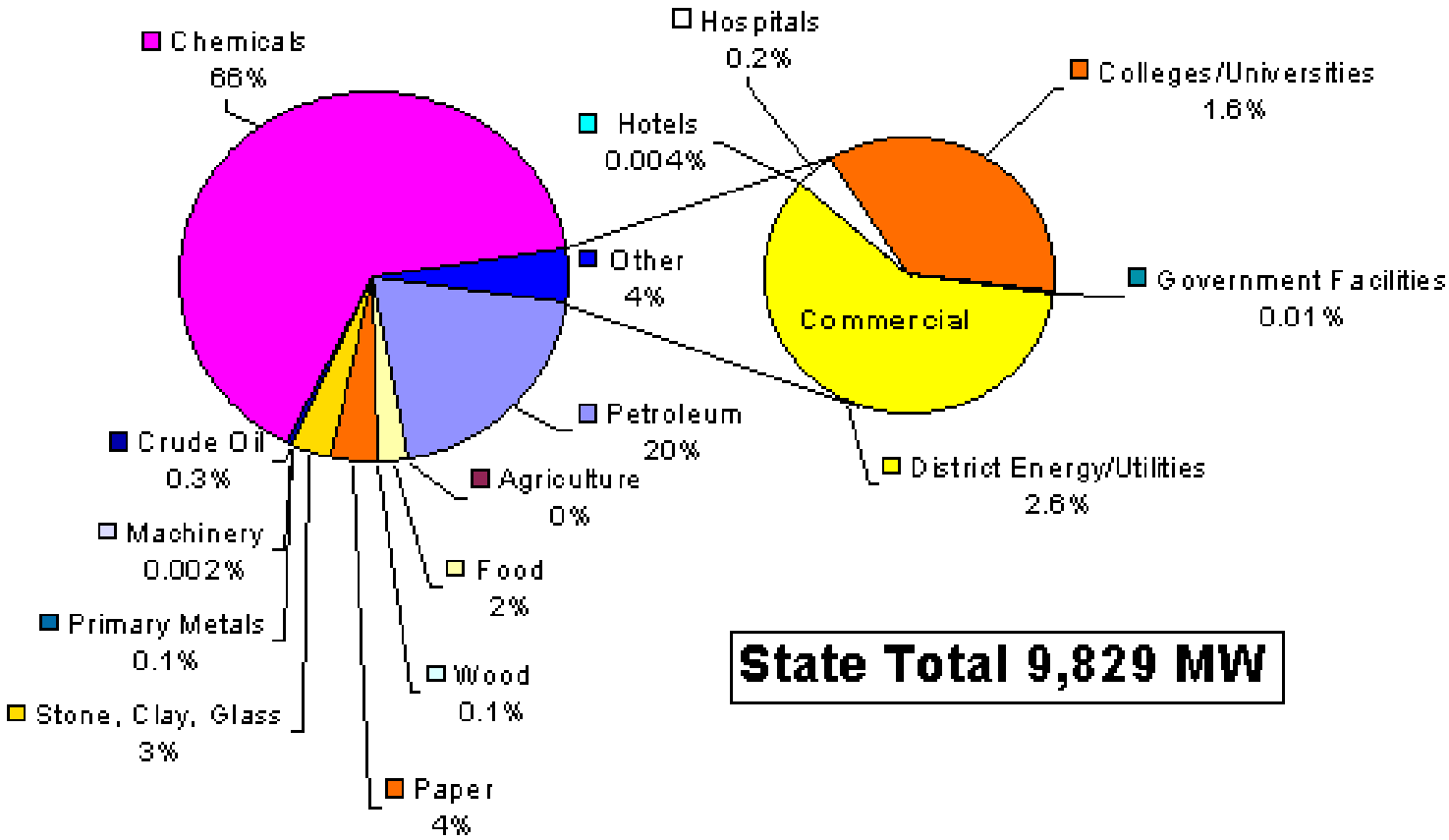


Table 2: Power Plant Annual NOx Reductions Due To The 2000 IECC (Single Family Residential)

Memo from A&M University Energy Systems Labs on EGRID geographical distribution of NOx reductions from the electricity savings attributable to the implementation of the 2000 IECC to single family residential.

CHP Capacity by End-User Sector in TX



Source: Onsite Energy 2000c

CHP in Texas

Texas leads the nation in installed capacity CHP,

- ~10,000 MW installed at 110 sites.
- Most of the capacity is natural gas-based.
- The chemical industry accounts for two-thirds of that capacity, with petroleum contributing another fifth for a combined total of 86%.

Onsite Sycom Energy projects that the potential exists to install another 21,000 MW.

- About a third of the potential is in the commercial sector (7,330 MW) and two-thirds in industry (13,400 MW).

Solar Thermal Panels

Solar Thermal System Payout

Cost of Solar System	$ 495,000
Added Cost for Roof Struct. & Solar pump	$ 30,516
Cost of Conventional System	- $ 150,000
TOTAL COST DIFFERENTIAL	$ 375,516
Operating Cost for Conventional system	$ 78,768
Operating Cost for Solar system	- $ 2,600
TOTAL ANNUAL SAVINGS	$ 76,168

Payout: $375,516 ÷ $76,168 = 4.9 yrs

How can we accelerate the rise of clean DG?

Get local governments to pass ordinances friendly to distributed resources

Start gearing up for the next legislative session, where we can hopefully resolve the lingering issues of

- Interconnection
- Insurance
- Net metering

"Distributed power generation will end the long-distance tyranny of the grid…The new power plants of choice the world over are using either natural gas or renewable energy, and are smaller, nimbler, cleaner and closer to the end-user than the giants of yesteryear."

-- From the Economist, Feb. 2001